



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,746	01/02/2004	Jui-Hung Hsu	250809-1040	1852

24504 7590 10/11/2005

THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP  
100 GALLERIA PARKWAY, NW  
STE 1750  
ATLANTA, GA 30339-5948

EXAMINER
----------

A, MINH D

ART UNIT	PAPER NUMBER
----------	--------------

2821

DATE MAILED: 10/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/750,746

Applicant(s)

HSU, JUI-HUNG

Examiner

Minh D. A

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 11 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5 and 17 is/are rejected.
- 7) ☒ Claim(s) 2-4, 6-9 and 11-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

1. Claims 1, 5 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Jo et al (US 6,842,158).

Regarding claim 1, Jo discloses frequency with a first operational frequency and a second operational frequency for a portable electronic device, the multi-frequency antenna comprising: an antenna body (10) including a feed-in terminal(22), a ground terminal(30), a first radiation arm, and a second radiation arm, wherein the first and second radiation arms are arranged in symmetrically inward spiral form, share the feed-in terminal, and form a first current path and a second current path which realize the first and second operational frequencies respectively; and ground plane, coupled to the

Art Unit: 2821

ground terminal and disposed with respect to the antenna body. See figures 1 and 6, col4, lines 55-67 to col6, lines 1-47.

Regarding claims 5 and 17, Jo discloses the portable electronic device comprising: a multi-frequency antenna, comprising: an antenna body including a feed-in terminal, a ground terminal, a first radiation arm, and a second radiation arm, wherein the first and second radiation arms are arranged in symmetrically inward spiral form, share the feed-in terminal, and form a first current path and a second current path which realize the first and second operational frequencies respectively; and a ground plane, coupled to the ground terminal and disposed with respect to the antenna body; and a patch antenna, separately disposed in a side of the multi-frequency antenna, having a third current path to realize the third operational frequency. See figures 1 and 6, col4, lines 55-67 to col6, lines 1-47.

***Allowable Subject Matter***

2. Claims 2-4, 6-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach that, the ground plane has a hollowed section which is beneath the endfire direction of the antenna recited in dependent claims 2 and 6.

The prior art does not teach that, the first operational frequency belongs to GSM bandwidth, and the second operational frequency belongs to DCS bandwidth and

Art Unit: 2821

wherein the antenna body and the patch antenna are disposed at a distance of about 1 to 7 mm recited in dependent claims 4, 8 and 11.

The prior art does not teach that, patch antenna, separately disposed in a side of the multi-frequency antenna, having a third current path to realize the third operational frequency, wherein the third current path sets the third operational frequency meeting the requirement of Bluetooth communication recited in independent claims 14 and 16.

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chung (US 6,353,420) and Mandai et al (US 6,064,351) are recited to show a spiral shaped antenna.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 2721817. The examiner can normally be reached on M-F (5:30 -2:30 PM). If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.


Application/Control Number: 10/750,746  
Art Unit: 2821

Page 5

Examine: Minh A

Art unit 2821

8/18/05



**WILSON LEE**  
**PRIMARY EXAMINER**